management system 430 generates and transmits a report based on the performance information in step 2914. FIG. 29 ends in step 2916.

FIG. 30 is a flow chart for a market performance management system 430 for real-time polling of a probe in an example of the invention. FIG. 30 begins in step 3000. In step 3002, the market performance management system 430 receives a request message for a real-time poll of a probe. In step 3004, the market performance management system 430 generates and transmits an SNMP message to poll a probe. In step 3006, the market performance management system 430 receives performance information from the probe via SNMP. In step 3008, the market performance management system 430 stores the performance information in the market database system 435. In step 3010, the market performance management system 430 generates and transmits a report with the performance information. The market performance management system 430 then stores the report in the HTML fragment repository in step 3012. FIG. 30 ends in step 3014.

FIG. 31 depicts a national headquarter web page in an example of the invention. The national performance management system 230 generates a national map, including active market sites, depicting the broadband wireless system 100 for access by a user. The user selects a market and the national performance management system 230 transfers control to the market performance management system 430 that the user selected. The market performance management system 430 then generates and transmits the market page 2710 as depicted in FIG. 32.

FIG. 32 depicts the market web page 2710 in an example of the invention. The market page 2710 also displays links to the CM status page 2720, the HSMP query page 2730, the hybrid probe page 2740, the NetScout statistics page 2750, the protocol statistics page 2760, the MRTG statistics page 2770, the sector probe page 2780, the key performance indicators page 2790, and the SIF statistics page 2795.

If the user selects the CM status page 2720, then the market performance management system 430 generates and transmits the CM status page 2720 as

depicted in FIG. 33. FIG. 33 depicts a CM status web page 2720 in an example of the invention. The CM status page 2720 includes a field to change the date of a query for the graphs in FIG. 33. The top graph is a time vs. active modem percentage graph. The market performance management system 430 separately displays the different sectors in the market as lines and percentages of all active modems throughout a selected day. In this embodiment, the modems are the wireless broadband routers. The market performance management system 430 then displays the bottom graph of time vs. modem counts for a sector. The bottom graph illustrates the number of modems in polling, dedicated, and contention states for a specified time. Under the bottom graph, the CM status page 2720 includes links for the FEC summary page 2722, the FEC channel page 2724, the SNR page 2726, and the peak/load capacity page 2728. The second graph is repeated for every sector in the market but is not shown in FIG. 33 for simplicity.

From the CM status page 2720, if the user selects the FEC summary page 2722 for the sector, then the market performance management system 430 generates and transmits the FEC summary page 2722 as depicted in FIG. 34. FIG. 34 depicts the FEC summary web page 2722 in an example of the invention. The top graph is a time vs. FEC blocks graph for a sector for a period of time. The FEC blocks are the number of FEC blocks that are detected by the demodulator. In this embodiment, the blocks represent 120 bytes. An upstream packet may be represented by one or more FEC blocks. The middle graph is a time vs. FEC correctable percentage graph for a sector for a period of time. In this embodiment with the Reed-Solomon code, up to 10 bytes can be corrected in a block. Thus, each FEC block may have 10 correctables. Having the FEC correctables greater than the FEC blocks is possible especially in the contention channel. The bottom graph is a time vs. FEC uncorrectable percentage graph for a sector for a period of time. The FEC uncorrectable errors are the number of FEC blocks that have uncorrectable errors. The demodulator realizes an FEC block is present contains to many errors to successfully recover the block.

From the CM status page 2720, if the user selects the FEC channel page 2724 for the sector and for a channel, then the market performance management system 430 generates and transmits the FEC channel page 2724 as depicted in FIG. 35. FIG. 35 depicts the FEC channel web page 2724 in an example of the invention. The top graph is a time vs. FEC blocks graph for a sector and a channel for a period of time. The second graph is a time vs. FEC correctable percentage for a sector and a channel for a period of time. The third graph is a time vs. FEC uncorrectable percentage for a sector and a channel for a period of time. The bottom graph is a time vs. SNR for a sector and a channel for a period of time.

From the CM status page 2720, if the user selects the SNR summary page 2726 for the sector, then the market performance management system 430 generates and transmits the SNR summary page 2726 as depicted in FIG. 36. FIG. 36 depicts the SNR summary web page 2726 in an example of the invention. The graph is a time vs. SNR for a sector and a channel for a period of time. The remaining graphs for the other channels are not depicted for the sake of simplicity.

From the CM status page 2720, if the user selects the peak/load capacity page 2728 for the sector, then the market performance management system 430 generates and transmits the peak/load capacity page 2728 as depicted in FIG. 37. FIG. 37 depicts the peak/load capacity web page 2728 in an example of the invention. The graph is a time vs. load graph for a sector for a period of time. The graph shows the load and capacity over time. If the number of dedicated channels exceeds 50% of the total number of channels, then the load is:

$$Load = (poll + ded + con) * 1.1$$

where poll = the number of polling modems;

ded = the number of dedicated modems; and

con = the number of contention modems.

If the number of dedicated channels is less than 50% of the total number of channels, then the load is: